

### **LISTING OF THE CLAIMS:**

This listing of claims will replace all prior versions, and listings of claims in the application.

1. (Currently Amended) An adhesive comprising 1) functionalized component and 2) an olefin polymer comprising:

50 weight % or more of an alpha-olefin having 3 to 30 carbon atoms, and

at least 50 ppm ~~up to 10 weight %~~ of a diene selected from the group consisting of: butadiene, pentadiene, hexadiene, heptadiene, octadiene, nonadiene, decadiene, undecadiene, dodecadiene, tridecadiene, tetradecadiene, pentadecadiene, hexadecadiene, heptadecadiene, octadecadiene, nonadecadiene, icosadiene, heneicosadiene, docosadiene, tricosadiene, tetracosadiene, pentacosadiene, hexacosadiene, heptacosadiene, octacosadiene, nonacosadiene, triacontadiene, cyclopentadiene, vinylnorbornene, norbornadiene, ethylidene norbornene, divinylbenzene, and dicyclopentadiene,

where the olefin polymer has a Dot T-Peel of 1 N or more on Kraft paper, an Mw of 10,000 to 100,000, a g' measured at the Mz of 0.95 or less and a heat of fusion of 1 to 70 J/g; where the functionalized component is selected from the group consisting of functionalized polymers, functionalized oligomers and beta nucleating agents, wherein the beta nucleating agents are materials that cause at least 5% beta crystallization of the crystallization that occurs, with a K value of 0.05 or more; and where the Gardner color of the adhesive does not change by more than 7 Gardner units when the adhesive has been heat aged at 180°C for 48 hours as compared to the Gardner color of the unaged composition.

2-41. (Cancelled)

42. (Previously Presented) The adhesive of claim 1, wherein the functionalized component comprises functionalized polymer selected from the group consisting of maleated polyethylene, maleated metallocene polyethylene, maleated metallocene polypropylene, maleated ethylene propylene rubber, and functionalized polyisobutylene.

43. (Previously Presented) The adhesive of claim 1, wherein the functionalized component comprises functionalized oligomer.

44-49. (Cancelled)

50. (Previously Presented) The adhesive of claim 1, wherein the functional component comprises a functional polymer where the polymer of the functional polymer is syndiotactic polypropylene.

51. (Previously Presented) The adhesive of claim 1, wherein the functional component comprises a functional polymer where the polymer of the functional polymer is syndiotactic rich polypropylene.

52. (Cancelled)

53. (Previously Presented) The adhesive of claim 1, wherein the functional component comprises a functional polymer where the polymer of the functional polymer is polypropylene having a weight average molecular weight between 3,000 to 15,000 and a crystallinity of 5% or more functionalized with up to 10 weight% of maleic anhydride.

54. (Previously Presented) The adhesive of claim 1, wherein the functional component comprises a functional polymer where the polymer of the functional polymer is polypropylene having:

- 1) a heat of fusion from about 0.5 J/g to about 25 J/g; and /or
2. a crystallinity of about 0.25% to about 15%; and/or
- 3) a melting point of from about 25°C to about 75°C; and / or
- 4) a weight average molecular weight, prior to functionalization, of 10,000 to 500,000; and/or

- 5) an  $M_w/M_n$  between 1.8 to 5; and /or
- 6) a Mooney viscosity ML (1+4)@125°C less than 100.

55. (Previously Presented) The adhesive of claim 1, wherein the functional component comprises a functional polymer where the polymer of the functional polymer is syndiotactic rich polypropylene having at least 50% [r] dyads.

56. (Previously Presented) The adhesive of claim 1, wherein the functional component comprises a functional polymer where the polymer of the functional polymer is syndiotactic rich polypropylene having at less than or equal to 99% [r] dyads.

57. (Previously Presented) The adhesive of claim 1, wherein the functional component comprises a functional polymer where the polymer of the functional polymer is a random copolymer of propylene and an alpha olefin wherein the propylene copolymer has:

- a crystallinity of from 0.1 to 50%;
- a propylene content from 68 to 92 mole percent;
- a comonomer content from 8 to 32 mole percent;
- a melting point from 25°C to 105°C; and
- a heat of fusion of less than 45 J/g.

58-73. (Cancelled)